

Arable reversion to species-rich grassland: early management of the new sward

The reversion of arable land to permanent grassland is a major area of work funded through Environmental Stewardship. There are a number of reasons why arable land is reverted to grassland. This note provides guidance on reversion to create a species-rich sward comprising species, in particular wildflowers, characteristic of semi-natural grassland communities. Guidance on the selection of suitable sites for arable reversion to species-rich grassland and the establishment of a species-rich sown sward is given in other Technical Information Notes.

Key points

- Regular cutting and/or grazing will be required in the first year to promote grass growth and control weeds.
- Any problems with perennial weeds should be dealt with quickly, while the plants are young.
- Productivity may be low in the early years, this can be partly addressed by the application of farmyard manure.

Introduction

During the first growing season regular cutting and/or grazing is usually required to reduce competition from the more vigorous species, including weeds. The grazing or cutting start date will depend on the growth rate of the vegetation and the need to control weeds.

Cutting

For a sward sown in late summer/early autumn cutting may need to start early in the first spring and continue at regular intervals into late autumn. Sward height should be used to determine when to cut. As a guide once the sward reaches 10-15 cm in height it should be cut to a height of 5-7 cm.



Arable Reversion fields in the Cotswolds

Cutting can pose a threat to ground nesting birds, especially skylark and lapwing, which are often attracted to the sparse vegetation cover of new swards. Ideally agricultural operations should be minimised between 1 April and 15 July to protect breeding birds. However, unless a species which is protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) is nesting (eg stone curlew), then the requirement to establish the sward successfully may have to take precedence.

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Potential damage to ground nesting birds can be reduced by:

- Locating and marking nests and avoiding them (lapwing nests are relatively easy to find).
- Working from one side of the field to the other, or from the centre out, to reduce the risk of concentrating birds and other wildlife in the area to be cut.
- Starting cutting as early in the season as possible and keeping the sward short throughout the breeding season, since most birds (but not lapwing) find such conditions unattractive for nesting.

Where the objective is to re-create species-rich grassland cuttings should be removed as leaving them retains nutrients on the site and may smother young plants. If it is impractical to remove the cut vegetation, eg because it is too sparse, cuttings should be spread as thinly as possible. In such circumstances a flail type machine is useful as it macerates the vegetation, which then breaks down rapidly.

Grazing

Grazing of the new sward is beneficial as it removes excess growth, encourages tillering and can help control weeds, especially annual arable weeds.

To reduce the likelihood of selective grazing it is generally better to graze with a large number of stock for short periods than a small number for long periods. As a guide, once an average sward height of 5-7 cm has been achieved, stock should be removed and only returned once the sward has grown to over 10 cm.

Care is needed to ensure that overgrazing does not occur at this early stage.

For newly establishing swards grazing with sheep is ideal because they are light on their feet and have a nibbling grazing action. They can be useful in spring to firm down any frost lift. Cattle should be used carefully at this early stage as they tend to tear the sward when grazing and can easily poach a site if conditions are wet.

Weed control

Uncontrolled, dense growth of seedling weeds can be very damaging to newly established grass. There may be an initial flush of annual weeds, such as common chickweed *Stellaria media*, but these should be controlled by the regular cutting/grazing regime already outlined.

Perennial weeds should be dealt with as soon as possible as they are usually easier to control in their juvenile growth stage. The use of a selective herbicide will usually be acceptable where a grass mix only has been sown. Where wildflowers were included in the seed mix, other control methods such as topping, spot treatment, weed wiping or an 'eco-puller' should be used instead.

Where the aim is to re-create species-rich grassland, white clover *Trifolium repens* should also be considered a weed species. Spot treatment with a selective herbicide is the best method of control.

Weeds with wind-blown seeds, such as spear thistle *Cirsium vulgare* and ragwort *Senecio jacobaea*, should continue to be controlled where they occur on adjacent areas as the new sward will be susceptible to invasion. There is a statutory requirement, specified in the Weeds Act 1959, to control injurious weeds which threaten agricultural land or production.

Productivity

The productivity of arable reversion swards may be substantially lower than that of permanent grassland for several years after establishment due to very low nitrogen availability. This may result in sward thinning and the ingress of moss.

The application of farmyard manure can reduce this problem to some extent, whilst at the same time adding valuable organic matter. Contact your Natural England Adviser for further advice where the use of organic manure is proposed.

Ongoing management

After the first full season the sward should have thickened and it can be beneficial to allow it to flower and set seed before it is cut or grazed.

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The long term site objectives agreed with your Natural England Adviser should be used to determine ongoing management. Any problems with weeds or other undesirable species should continue to be addressed, eg by repeated cutting of the problem area(s).

Further information

Natural England Technical Information Notes are available to download from the Natural England website: www.naturalengland.org.uk. In particular see:

- Technical Information Note TIN066: *Arable reversion to species rich grassland: site selection and choice of methods*
- Technical Information Note TIN067: *Arable reversion to species rich grassland: establishment of a sown sward*

For further information contact the Natural England Enquiry Service on 0300 060 0863 or e-mail enquiries@naturalengland.org.uk.

This note does not supersede prescriptions in agri-environment scheme agreements. If there is any conflict between the information in this note and your agreement please contact your Natural England Adviser.

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